

## MICRO COOLING AND POWER SUPPLYING STRUCTURE

### ABSTRACT OF THE DISCLOSURE

A micro cooling and power supply structure is proposed, which includes an  
5 emitter end chip having an emitting surface, a collector end chip having a collecting  
surface that corresponds to the emitting surface and is separated from the emitting  
surface, and a plurality of micro cantilever beam components formed on the emitting  
surface. Each micro cantilever beam component has a projecting part as an electron  
emitter. A distance between the projecting part and the collecting surface is sensed by a  
10 sensor component and maintained by an actuating component at an optimal value to  
produce an electron tunneling effect, so as to lessen the requirement for a planar chip  
surface and the low work function material. With the capacity of the micro cantilever  
beam components to position the tunneling distance, the frequency of electron tunneling  
to the collecting surface is increased, and excellent cooling and power supply efficiency  
15 are achieved.

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